

## A community-based peer-to-peer model based on social networks

### ABSTRACT

Improving search performance is an important issue in peer-to-peer (P2P) network systems. The structure of underlying models has a direct effect on the performance of the search algorithms. In unstructured system like Gnutella query flooding algorithm suffers from poor scalability and considerable network overhead. In structured systems, algorithms like CAN and CHORD provide better performance, but they need more administrative tasks and have limited functionality in search. Our proposed model is a semi-structured, based on social networks which uses flooding algorithm for searching. Nodes in the model are grouped into several communities and sub communities with similar interests which provide lower distance and better locality in search. A simulation of the model shows lower path and better clustering than a random network.

**Keyword:** Peer-to-Peer computing, social network, community, Model